



INTEGRATION-2K18

NSV KARIMNAGAR ZONAL LEVEL MATHS OLYMPIAD TEST

LOGICAL BRAIN CONTEST for Class - VIII

Time: 60 Minutes

Max. Marks: 50

1. Which of the following is correct?

- A) $1\frac{1}{5} < 1\frac{1}{2} < 1\frac{3}{5} < 1\frac{3}{4}$ B) $2\frac{1}{2} < 2\frac{1}{4} < 2\frac{1}{5} < 2\frac{1}{8}$ C) $\frac{2}{3} < \frac{1}{2} < \frac{1}{4} < \frac{3}{4}$ D) None of these

2. $\frac{(469+174)^2 - (469-174)^2}{(469 \times 174)} = ?$

- A) 2 B) 4 C) 295 D) 643

3. A is two years older than B who is twice as old as C. If the total of the ages of A, B and C be 27, then how old is B.

- A) 7 B) 8 C) 9 D) 10

4. A father said to his son, "I was as old as you are at the present at the time of your birth". If the father's age is 38 years now, the son's age five years back was:

- A) 14 years B) 19 years C) 33 years D) None of these

5. A class interval of a data has 15 as the lower limit and 25 as the size, then the class mark is _____

- A) 26 B) 26.5 C) 27 D) None of these

6. Mohan ranks 8th from the top and 32nd from the bottom in a class. How many students are there in the class?

- A) 40 B) 39 C) 31 D) 41

7. The sum of two numbers is 175 and their difference is 75. The difference of their squares is

- A) 13025 B) 13125 C) 13215 D) 13152

8. In 28 litres mixture of milk and water the ratio of milk and water is 5:2. How much water should be added in the mixture so that the ratio of milk to water becomes 2:5

- A) 42 litres B) 32 litres C) 24 litres D) 39 litres

9. A pipe can fill a cistern in 25 hours. Find the part of tank filled in 5 hours.

- A) $\frac{1}{25}$ B) $\frac{1}{5}$ C) $\frac{1}{10}$ D) None

10. The remainder when $[(222)^{222} + (333)^{333} + (444)^{444} + (777)^{777} + (999)^{999}]$ is divided by 5 is _____

- A) 3 B) 2 C) 1 D) 4

11. The H.C.F of 11, 0.121 and 0.1331 is _____

- A) 0.00011 B) 0.0011 C) 0.011 D) 0.001

12. The L.C.M of 2.2, 540 and 1.08 is _____.

- A) 5840 B) 584 C) 594 D) 5940

13. If $\frac{9x+7}{2} - \left[x - \left[\frac{x-2}{7} \right] \right] = 36$, then x is _____

- A) 9 B) 18 C) 5 D) 4

14. $\sqrt[3]{101 + \sqrt[3]{13824}} =$ _____

- A) 25 B) 5 C) 125 D) None of these

15. Three numbers are in the ratio 2:3:4. The sum of their cubes is 33957. Find the largest *number*

- A) 28 B) 21 C) 32 D) 14

16. The sum of $3.\bar{2}$ and $5.\bar{4}$ is _____

- A) $\frac{78}{3}$ B) $\frac{58}{3}$ C) $\frac{58}{9}$ D) $\frac{78}{9}$

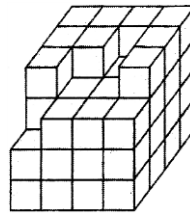
17. If *green* is called *white*, *white* is called *yellow*, *yellow* is called *blue*, *blue* is called *pink* and *pink* is called *black*, then what is the colour of milk?

- A) Green B) Blue C) Pink D) Yellow

18. Count the number of cubes in the given figure.

- A) 56 B) 55

- C) 54 D) 52



19. A ship can cover a certain distance in 10 hours at a speed of 16 nautical miles per hour. By how much should its speed be increased so that it takes only 8 hours to cover the same distance?

- A) 20 B) 14 C) 16 D) None of these

20. The median of a set of 9 distinct observations is 20. If each of the largest 4 observations of the set is increased by 2, then the median of the resulting set is _____

- A) 20 B) 22 C) 18 D) None of these

21. The value of $\sqrt{\frac{8^{10} + 4^{10}}{64^2 + 4^9 \times 16}}$ is _____

- A) 16 B) 32 C) 4 D) 8

22. In the isosceles trapezium PQRS with $PQ \parallel RS$ and $QR = PS$, which of the following is correct?

- A) $\angle P + \angle S = 180^\circ$ and $\angle Q + \angle R = 180^\circ$ B) $PS = QR$ and $PR = QS$
 C) $\angle P = \angle Q$ and $\angle R = \angle S$ D) All of the above

23. If $(x - \frac{1}{x}) = 9$, then $(x + \frac{1}{x})^2 =$ _____

- A) 83 B) 85 C) 81 D) 82

24. Ritesh went to meet his cousin to another village situated 5 km away in north east direction of Ritesh's village. From there he came to meet his friend living in a village situated 4 km in the south of his cousin's village. How far away and in which direction is he now from initial position?

- A) 3 km, east B) 4 km, east C) 3 km, north D) 4 km, west

25. If the following series is written in reverse order, which number will be 4th to the right of the 7th number from the left? 7, 3, 9, 7, 1, 3, 8, 4, 6, 2, 1, 8, 5, 11, 13

- A) 1 B) 3 C) 7 D) 8

26. Which one will replace the question mark?

- A) 60 B) 46



C) 86

D) 75

27. In how many times, between two odd numbers, there is an even number?

4 6 3 4 7 2 5 4 1 2 3 4 5 6 7 8 9 6 4 7 5 2

A) 5

B) 6

C) 7

D) 8

28. In the series given below, how many 8's are there each of which is exactly divisible by its immediate preceding as well as succeeding numbers? 2 8 4 3 8 5 4 8 2 6 7 8 4 6 2 8 4 1 7

A) 1

B) 2

C) 3

D) 4

29. If $a = b - \sqrt{b^2 - 1}$, then $b =$

A) $\frac{1}{2}(a^{-1} - a)$

B) $\frac{1}{2}(a^{-1} + a)$

C) $\frac{1}{2}(a - a^{-1})$

D) $-\frac{1}{2}(a + a^{-1})$

30. The value of $\left\{8^{-\frac{2}{3}}\right\}^{\frac{1}{2}}$ is _____

A) 8

B) $\frac{1}{8}$

C) 2

D) 1

31. Find the ratio compounded of the duplicate ratio of 5:6, the reciprocal ratio of 25:42 and the Sub-duplicate ratio of 36:49.

A) 1:1

B) 1:2

C) 3:4

D) 6:7

32. In an equilateral triangle of side 24cm, a circle is inscribed touching its sides. Find the area of the remaining portion of the triangle (Take $\sqrt{3} = 1.732$)

A) 96.55 cm²

B) 99.55 cm²

C) 98.55 cm²

D) 90.55 cm²

33. If the CP of 6 articles is equal to the SP of 4 articles, find the gain percent.

A) 20%

B) 25%

C) 50%

D) 75%

34. A boy is now one-third as old as his father. Twelve years hence he will be half as old as his father. Find his father age?

A) 12 years

B) 32 years

C) 50 years

D) 24 year

35. If 30% of A = 0.25 of B = $\frac{1}{5}$ of C, then A:B:C =?

A) 5:6:4

B) 5:24:5

C) 6:5:4

D) 10:12:15

36. If 40% of (A+B) = 60% of (A-B) then $\frac{2A-3B}{A+B}$ is

A) $\frac{7}{6}$

B) $\frac{6}{7}$

C) $\frac{5}{6}$

D) $\frac{6}{5}$

37. 25% of 120 + 40% of 380 = ? of 637

A) $\frac{2}{7}$

B) $\frac{1}{7}$

C) $\frac{4}{7}$

D) $\frac{3}{7}$

38. What is 27% of 36% of $\frac{5}{9}$ of 4500?

A) 239

B) 241

C) 243

D) 245

39. 1% of 1% of 25% of 1000 is

A) 0.025

B) 0.0025

C) 0.25

D) 0.000025

40. B got 20% marks less than A. What percent marks did A get more than B?

- A) 20% B) 25% C) 12% D) 80%

41. A student has to obtain 33% of total marks to pass. He got 25% of total marks and failed by 40 marks. The number of total marks is.

- A) 800 B) 300 C) 500 D) 600

42. In an examination, 70% of the candidates passed in English, 80% passed in maths and 10% failed in both the subjects. If 84 candidates passed in both the total number of candidates was.

- A) 125 B) 200 C) 140 D) 375

43. In an election, there are three candidates contested. The first candidates got 40% votes and the second got 36% votes. If total number of votes polled were 36000. Find the number of voter got by the 3rd candidate.

- A) 8040 B) 8640 C) 9360 D) 9640

44. A man can do a piece of work in 10 days but with the assistance of his son the work is done in 8 days. In how many days, his son alone can do the same piece of work?

- A) 15 days B) 22days C) 30days D) 40days

45. A can do a piece of work in 25 days and B in 20 days. They work together for 5 days and then A goes away. In how many days will B finish the remaining work?

- A) 17 days B) 11 days C) 10 days D) None

46. If the perimeter and diagonal of a rectangle are 14 cm and 5 cm respectively, find the area.

- A) 12 cm² B) 16 cm² C) 20 cm² D) 24 cm²

47. A horse a tethered to one corner of a rectangular grassy field 40 m by 24 m with a rope 14 m long. Over how much area of the field can it graze?

- A) 154 cm² B) 308 m² C) 150 m² D) None

48. If 78 is divided into three parts such that they are in the ratio $1 : \frac{1}{3} : \frac{1}{6}$, the middle part is.

- A) $9\frac{1}{3}$ B) 13 C) $17\frac{1}{3}$ D) $18\frac{1}{3}$

49. What is the difference between the largest and the smallest rational numbers among the following?

$$\frac{2}{3}, \frac{4}{5}, \frac{5}{6}, \frac{3}{4}$$

- A) $\frac{1}{12}$ B) $\frac{1}{20}$ C) $\frac{1}{30}$ D) $\frac{1}{6}$

50. Average marks of 35 students of class 8th is 72. If the marks of Reema are written 36 in place of 86, find the correct average (till two places of decimals)

- A) 73.41 B) 74.31 C) 72.43 D) 73.43
